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ABSTRACT

In a study to identify types of mass media consumers, a Q-type factor analysis was run on respondent exposure to 90 categories of content within seven mass media (television, radio, recordings, motion pictures, newspapers, magazines, and books). The respondents were 116 seventh graders in Waterloo, Iowa, who were asked to keep daily diaries of their mass media exposure for a week, and who completed questionnaires to obtain demographic information and additional information about exposure to books and motion pictures. The analysis of exposure to the 90 categories of mass media identified the following types: female readers, male newspaper readers, male TV watchers, female newspaper readers, upscale country, general TV watchers, male movie goers, and nonnews readers. Using demographic variables as independent variables, regression analyses were performed to identify the strongest predictors of the mass media content factors produced by the Q-type factor analysis. Sex was the most frequent predictor. (Appendixes include a sample daily mass media diary and questionnaire, researcher coded mass media content, and tables of means, standard deviations, and number of respondents for all variables.) (DF)

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PATTERNS OF MASS MEDIA EXPOSURE AMONG SEVENTH GRADERS

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Abstract

The most common means of identifying mass media consumers has been by the use of demographic variables. In this study, the researcher used a Q-type factor analysis to identify types of mass media consumers. A Q-type factor analysis was run on respondent exposure to 90 categories of content within seven mass media (television, radio, recordings, motion pictures, newspapers, magazines, and books). The respondents were 116 seventh graders located in Waterloo, Iowa.

The analysis of exposure to the 90 categories of mass media content identified the following types: "Female" Readers, "Male" Newspaper Readers, "Male" TV Watchers, "Female" Newspaper Readers, Upscale Country, General TV Watchers, "Male" Movie Goers, and Non-News Readers.

Using demographic variables as independent variables, regression analyses were performed to identify the strongest predictors of the mass media content factors produced by the Q-type factor analysis. Sex was the most frequent significant predictor.

Introduction

Most Americans live in a mass media environment that is potentially both rich and diverse. The average citizen has the necessary monetary resources and language skills to use the major mass media--television, radio, recordings, motion pictures, newspapers, magazines, and books--and to consume the wide variety of content available in these media. Since the amount of media content available is vast relative to the amount of time available for media use, people must continually select from this mass media content. No two people will make exactly the same selections. Thus, each person's exposure to the mass media is unique.[1]

However, it is likely that among any large population in a similar mass media environment, there are similarities among certain people. Individuals with a similar pattern of exposure to the mass media can be described as a particular mass media type. Given this assumption, one question naturally arises: What kinds of mass media exposure types are there?[2]

The major purpose of this study was to answer that question for older children living in Waterloo, Iowa.

I used seventh graders as the respondents in the study for three reasons. First, the average seventh grader has the necessary reading skills to use the full range of mass media included in this study. Children younger than this may not have. Second, with the aid of a teacher, seventh graders were able to keep a daily diary and were sophisticated enough to respond to a written questionnaire. Finally,

this age group is of particular interest because it is near the peak age of television exposure in the United States.[3] Thus, the strongest impact of television on the exposure to other mass media should be evident for this age group.

By far the most common approach to identifying individual differences in mass media exposure has been to relate differences in media exposure to demographically defined groups. The mass media exposure patterns, particularly television exposure, of people of different ages, educational levels, socio-economic statuses, household sizes, etc. frequently have been compared by mass media researchers.

In some cases, this research has produced clear distinctions among different demographic groups. However, some of this research has produced contradictory and inconclusive results. In a recent summary of research on children's uses of the mass media, Wartella, Alexander, and Lemish concluded that "even for descriptive purposes the findings regarding correlates of media use (exposure) are contradictory." For example, "heavy viewers are found among the bright, the low SES, the middle class, and blacks. For each of these findings one can find opposing results."[4] Comstock, Chaffee, Katzman, McCombs, and Roberts came to a similar conclusion about television exposure and demographic variables. They suggested that because television is so heavily used in our society, the differences related to demographic categories have been greatly reduced.[5] Finally, Avery found that sociological and demographic variables were more useful in differentiating the mass media exposure of adolescents than the mass

media exposure of children, but he added that "the literature is not void of contradictions."[6]

The popularity of the use of demographic variables in mass media exposure research appears to stem from their traditional use in sociological research, as well as the relative ease with which they can be measured, rather than from their theoretical relationship to mass media exposure. Typically, the relationship between a demographic variable and mass media exposure is explained after the relationship is discovered, rather than being offered as evidence to support a priori theoretical notions as to why people differ in mass media exposure.

My purpose here is not to discount the utility of demographic variables in studying mass media exposure, but to demonstrate that groups of mass media consumers identified by their similar patterns of exposure to mass media are not isomorphic with the groups identified by demographic variables.

In addition, I would suggest that groups identified by their common patterns of mass media exposure (mass media types) are, in theory, more closely related to specific media effects (changes in attitudes or behaviors) than are groups identified by demographic variables. Thus, the identification of mass media types should more clearly isolate the individuals who are most likely to be affected by concentrated exposure to specific mass media content. This idea is implicit in the writings of several major figures in mass communication research.

Walter Lippman's classic analysis of how mass media form the

"pictures in our heads" of the reality that we cannot experience directly suggests that the types and amount of mass media to which we expose ourselves will largely determine how we view the world.[7] If persons identified as a particular mass media type habitually consume only certain kinds of mass media, they will have little else from which to build their pictures of reality.

In his description of the mosaic model of mass communication effects, Samuel Becker argues that from an almost infinite collection of information increments (or bits) concerning any topic, we consume only a small amount:[8]

> These information increments can come from any of a very large number of sources, so large a number that, for all practical purposes, it also can be treated as infinite. However, at any given moment, only a limited number of sources, if any, are making any of the relevant increments of information available to us.

The identification of mass media types will isolate the sources of information increments available to these types within a common mass communication environment.

The cultivation effect of television proposed by George Gerbner and others suggests that habitual patterns of exposure will affect attitudes.[9] If, as Gerbner argues, television effects come not from a single exposure, but from the repeated presentation of certain images that we come to view as reality, then it seems reasonable that the patterns of exposure exhibited by various mass media consumers must affect the realities that they construct.

Finally, Wilbur Schramm's stalagmite analogy illustrates how different mass media types might gradually develop different

personalities:

> The stalagmite builds up from the calcareous residue of the water dripping on it from the cave roof. Each drop leaves only a tiny residue, and it is very seldom that we can detect the residue of any single drop, or that any single drop will make a fundamental change in the shape or appearance of the stalagmite. Yet, together, all these drops do build the stalagmite, and over the years it changes considerably in size and somewhat in shape. . . . This personality pattern we are talking about is, of course, an active thing--not passive, like the stalagmite--but still the similarity is there. When we introduce one drop of communication into a person where millions of drops have already fallen and left their residue, we can hardly expect to reshape the personality fundamentally by that one drop. If we are communicating to a child, it is easier, because the situation is not so firmly fixed. If we are communicating in an area where ideas and values are not yet determined--if our drop of communication falls where not many have fallen before--then we may be able to see a change as a result of our communication.10

I am suggesting that we should begin to identify the different streams of water (mass media types) that form distinct stalagmites (attitudes, behaviors, and personalities).

Review of Literature

The review of literature will be limited to 11 studies that used factor analytic techniques to identify particular mass media exposure types or factors. A detailed review of the far more common studies of correlations among exposures to various mass media is available elsewhere.[11]

Several mass communication researchers have used R-type or Q-type factor analyses to investigate interest in or exposure to various kinds of mass media content. The majority of factor analytic studies have concentrated on news, either in newspapers alone or in newspapers and electronic media. I will first review the seven

factor analytic studies of news content, and then the four factor analytic studies that included a broader range of mass media content.

Factor Analytic Studies of News Content

In a R-type factor analysis of 130 news statements, Anast isolated four factors describing the news preferences of 241 Madison, Wisconsin residents.[12] The statements describe five areas of controversial news (foreign affairs, politics, economics-industry, columns-editorials, and education-social welfare) and ten areas of non-controversial news (crime, society, comics, the world of entertainment, sports, church, human interest, mishaps, natural disasters, and science and health). Respondents indicated on a seven point scale their interest in reading a news story described by each statement.

Factor one was dominated by statements concerning mishaps, crime, natural disasters, and human interest. Factor two contained "those categories of news interest considered controversial in the study,"[13] namely statements concerning foreign affairs, politics, and economics. Factor three was characterized by statements concerning the world of entertainment and society. Statements concerning science and health had their highest loading on factor four. The percentage of variance accounted for by each factor was not reported.

Bornholdt reported a Q-type factor analysis based on a Q-sort of interest in 48 different news items taken from a university newspaper.[14] Eighty university students sorted the 48 items which

represented four basic content categories: "violence, time of satisfaction to the reader, generality of effects to the audience, and the presence or lack of a predominant sex role displayed by persons described in the news item."[15]

Analysis of interest preferences produced three main types of university student readers. Type one students were most interested in oddities, disasters, and human interest events close to home. Type two students were also interested in disasters, but had separate interests in sports, and human interest events in general. Type three students were most interested in the Vietnam War, other international news, and the civil rights struggle.

Stempel did an R-type factor analysis of the responses of 225 adults in Athens, Ohio to 38 newspaper headlines representing 38 subject matter categories.[16] Respondents indicated their interest in each newspaper headline on a thermometer scale (0 to 100). Eight factors emerged. Factor one, labeled "national politics," concerned the actions of governmental agencies, especially in the federal government. The most important headlines characterizing factor two, labeled "immediate reward," were the weather and a shoplifting arrest. Factor three was labeled "economic activity." Six of seven headlines included in this factor dealt with fiscal activities. The two headlines with the highest loading for factor four, "public health and welfare," were a headline about a disease traced to turtle eggs and a headline about a million dollar gift to charities. Factor five was considered an artifact because no headlines had particularly high loadings on it. Factor six was labeled "low interest" because

all four headlines that loaded on it had a low level of overall interest. Factor seven was labeled "conflict-suspense" because items loading highest on it concerned an accident, a fire, and conflict or "suspense without violence."[17] Factor eight was labeled "leisure-activity," because all but one headline loading on it dealt with leisure time activities.

Using a R-type factor analysis, Clarke identified five factors of newspaper content preference for 381 ninth and eleventh grade boys in Seattle, Washington.[18] Respondents used a thermometer scale (0 to 100) to indicate the probability that they would read each of 109 news items. The researcher removed items with low communality and items with variance distributed across several factors, leaving 66 items in the reported factor structure.

The five factors extracted from this analysis accounted for 78 percent of the common variance. Factor one, labeled "public affairs," included items dealing with political, educational, social, and governmental issues. There was no distinction among international, national, state, or local issues. Factor two, labeled "science," included items relating to science and technology. Factor three, labeled "speed and violence," included items about automobiles and racing, crime, and accidental death. Factor four, "teen news," included items of appeal to teenage boys, excluding car and racing stories. Factor five, labeled "sports," included items about skiing, football, baseball, and ice hockey.[19]

Using a Q-sort of 54 newspaper stories by 40 diverse newspaper subscribers, Atwood identified four subscriber types.[20]

These four types were not very distinct. Atwood reported significant correlations among the four types for five of six possible comparisons. Type one preferred conflict stories more and oddity stories less than all other types. Type two rejected oddity stories more than other types. Type three had no clear preferences. Type four preferred stories containing oddity.

Ryan analyzed the news preferences of 67 adult, non-white residents of Philadelphia slums.[21] He started with 24 short news statements derived from all the news stories found in the three major evening television newscasts, the twice-weekly Black newspaper, and the three major daily newspapers. The 24 statements concerned four content areas (public affairs, economics, education, and health news) and three non-content areas (conflict, impact, and prominence). Respondents indicated whether they would read or listen to each of the 24 news statements. A R-type factor analysis produced three factors. Factor one, which accounted for 20.8 percent of the total variance, included all the public affairs statements and six of eight prominence statements. Factor two, which accounted for 10.5 percent of the variance, was labeled education-economics, because three education statements and two economics statements had their highest loading on this factor. Factor three, which accounted for 9.8 percent of the variance, included all but one of the health statements.

In his analysis of time use and news content, Grunig identified four news story preference groups under two conditions of news consumption: an ample time and a limited time condition.[22] Grunig

started with titles and two-sentence summaries of 20 different news stories that might appear on television or in a newspaper or magazine. Respondents (202) from the Baltimore and Washington, D.C. metropolitan areas rated each story on the likelihood of their reading or listening to that story. Grunig's factor analysis of news story preferences in the ample time condition produced four factors: a family factor, a science/public affairs factor, a local news factor, and a race/crime factor. In the limited time condition, the first three factors also emerged, but the race/crime factor was replaced by a feature-story factor.

Grunig also analyzed the relationships between newspaper reading and these factors. In the limited time condition, newspaper reading was positively and significantly related ($p < .01$) to the science/public affairs factor, the local news factor, and the feature story factor. In the ample time condition, newspaper reading was positively and significantly ($p < .01$) related to the science/public affairs factor.

Other Factor Analytic Studies

Using principal axis factor analysis, Dunn determined "if clusters of relevant subgroups of social characteristics, media habits, and preference might be identified within the Mexican-American community."[23] His analysis of responses to 37 questions concerning mass media exposure and other variables isolated six meaningful clusters of responses (four factors, two of which had both positively and negatively loaded clusters).

Factor one, which accounted for 27.03 percent of the variance,

produced a negatively loaded cluster labeled "traditional." These respondents were older, interviewed in Spanish, referred to themselves as "Mexican" or "Mexicano," and used Spanish-language radio and television. A second positively loaded cluster in this factor was labeled "non-traditional." These respondents were comfortable speaking English, were younger and better educated, called themselves "Mexican-Americans," and preferred radio and television programs in English. They also liked movies, adventure programs, drama, and comedy-variety on television, and used newspapers as their primary source of information.

Factors two and six were not interpreted by the researcher because it was likely that they were "mathematical artifacts due to the dichotomous nature of the input variables."[24]

Factor three, which accounted for 8.62 percent of the variance, produced a cluster labeled "radio users," because this group obtained most news and information from radio and listened to radio from 3 to 7 P.M.

Factor four, which accounted for 7.9 percent of the variance, broke into two distinct clusters. The first cluster consisted mostly of housewives who used television as a primary source of news and information, watched more television than the average respondent, and listened to radio during the day. The second cluster, labeled "out of home workers," was comprised of male white-collar and blue-collar workers who tended to use newspapers as their primary source of news and information.

Factor five, which accounted for 6.8 percent of the variance, was

labeled "electronic student" because most of the respondents loading on this factor were students who used radio and television heavily for news and information.

Dunn's research shows, for a given population, patterns of mass media exposure and content preference, as well as other characteristics, can be isolated, but the generalization of these results to the rest of the population is problematic. As Dunn warned "generalizability depends upon the application of multivariate techniques (such as were used in the present study) to other populations, other minority groups, or other geographical areas."[25]

In their study of mass media use among Venezuelans, Martin, McNelly, and Izcaray[26] factor analyzed estimates of the amount of attention (much, some, little, none) given to different kinds of newspaper articles (13 types), television programs (9 types), radio programs (8 types), and books (6 types). Separate factor analyses for the two socioeconomic groups produced different factors. The Low Socioeconomic Group's content factors "tended to be organized around particular media--a newspaper factor, a TV factor, a book factor, etc."[27] Factors from the High Socioeconomic Group were "more content-oriented." Several content-based factors (a political news factor, a community issues factor, an entertainment content factor) cut across several different media sources.[28] The authors interpreted these findings to mean that poor, less educated people are limited in mass media content choice (usually they are limited to just certain media) and therefore have less opportunity to select media based on content preferences.

Using Q-type factor analysis, Boyd isolated three types of mass media users among Egyptian "elites."[29] Thirty Egyptian elites from government, universities, and successful businesses were typed on the basis of their responses to 60 Q-items measuring exposure to media and media content, judgments of media availability and credibility, and uses of specific media and media content.

Type one mass media users preferred Egyptian entertainment media and found Egyptian news media credible. Type two mass media users did not trust Egyptian news media, preferring to obtain news from foreign news media. Type three mass media users used foreign radio heavily, but also used Egyptian newspapers for information about international events.

McIlwraith and Schallow recently reported a principal components analysis covering eight content categories and four media.[30] All regular television programs, radio programs, sections of two local newspapers, and magazines available in typical magazine outlets in Winnipeg, Canada were coded into one of eight content categories:

> interpersonal information (news, interviews, gossip), impersonal information (scientific factual information, or "how-to-do-it" instruction), sports and physical activity, sexual-romantic, musical, non-violent drama, violent drama, and comedy.[31]

Responses were coded separately for television, radio, and print media (newspapers and magazines). A sample of 219 students attending summer sessions at the University of Manitoba and the University of Winnipeg selected one of three exposure options (never, occasionally or sometimes, or regularly viewed/listened to/read) for each regular television and radio program, section of the newspaper, and magazine

title used in the study.

The principal components analysis produced seven components with eigen values over one. Together they accounted for 69.1 percent of the total variance in media exposure. Component one, labeled general television, had strong correlations with the following types of content: television interpersonal information, television impersonal information, television sports, television sexual-romantic, television musical, television non-violent drama, television violent drama, and television comedy. Component two, labeled general radio, had strong correlations with radio interpersonal information, radio impersonal information, radio sports, radio musical, radio violent drama, and radio comedy. Component three, labeled print information and humor, was strongly correlated with print interpersonal information, print impersonal information, print musical, and print humor. Component four, labeled sports, was strongly correlated with television sports, radio sports, and print sports. Component five, labeled print sex and violence, was strongly correlated with print sexual-romantic and print violent drama. Component six, labeled violent radio drama and music magazines, was strongly correlated with radio violent drama, print musical, and television sexual-romantic. Component seven, labeled print non-violent drama, was strongly correlated only with print non-violent drama.

McIlwraith and Schallow's results seem to point to the importance of medium over content, at least as indicated by their eight content categories. The first three components (and presumably the statistically strongest) were all general media factors which include

a wide range of content. Component five was also media specific, although more limited in content (only sexual-romantic and violent drama). Only component four (sports) exhibited a uniformity of content across several media (television, radio, print).

Conclusions from the Review of Literature

Despite differences in respondent ages and in the headlines or news stories used, there appeared to be some consistency in the kinds of factors isolated in the seven studies of news content. Five of the seven studies (Bornholdt, Stempel, Clarke, Ryan, Grunig) found a factor associated with public affairs information. Similarly, five of the seven studies (Anast, Bornholdt, Stempel, Clarke, Atwood) revealed a human interest/mishaps factor. Also, five of the seven studies (Anast, Stempel, Clarke, Ryan, Grunig) isolated a science and/or health factor. In addition, an entertainment factor was found by two studies (Anast, Stempel), an economics factor by two studies (Stempel, Ryan), and a sports factor by two studies (Bornholdt, Clarke). Thus, factor analytic studies of news content seem to point at least three common factors: a public affairs factor, a human interest factor, and a science and/or health factor.

Since none of the four factor analytic studies of other types of mass media content were conducted in the United States, their results are of limited value to scholars studying exposure to mass media in America. In addition, since each of these studies started with a very different set of exposure items from which their final factors were derived, it is difficult to compare the final factors. One common result was noted. Three of the studies (Dunn; Martin, McNelly, and

Izcaray; and McIlwraith and Schallow) produced media media content factors centered on exposure to a particular medium rather than on a particular type of media content. Dunn isolated radio users, television users, and newspaper users. Martin, McNelly, and Izcaray found mostly media factors for the low socioeconomic group in their study. And McIlwraith and Schallow isolated television users, radio users, and print information users. Thus, in these diverse studies of non-U.S. respondents, the identification of factors centered on a particular medium was more common than the identification of factors centered on a particular type of mass media content.

Overview of the Study

The absence of a factor analytic study of exposure to a wide range of both news and non-news mass media content for a sample of older children in an American community lead to the study reported in this paper. In this study I attempted to answer four questions:

1. What are the mass media content types (patterns of exposure to mass media content) among older children in a given mass media environment (geographic area)?

2. Are the mass media content types isolated in this study more typically described by a specific medium (TV types, newspaper types, radio types, etc.) as in previous studies of non-U.S. samples or by particular types of content common to several mass media (action/adventure types, [illegible] types, romance types, etc.)?

3. What demographic variables are most strongly related to each of the mass media content types identified in the study?

4. Are the mass media types identified isomorphic with certain

demographic variables, or do they represent distinct descriptions of patterns of mass media exposure?

In order to answer these questions, I started by surveying the exposure of a group of seventh grade students to 90 categories of mass media content available in seven major mass media (television, radio, recordings, motion pictures, newspapers, magazines, and books). Each respondent's exposure to television, radio, recordings, newspapers, and magazines was measured over a period of one week. Each respondent's exposure to books and motion pictures was measured over a period of two months. At the same time, seven demographic variables (sex, age, father's education, mother's education, household occupational prestige, household size, academic achievement) were measured.

Data obtained from each of the measurements of exposure to the 90 categories of mass media content were first converted into z-scores. Next, these z-scores were entered into a Q-type factor analysis. This Q-type factor analysis grouped respondents with similar variations in exposure to the 90 categories of mass media content into mass media content factors. These factors contained two groups of respondents (mass media content types). The first mass media content type represented the respondents with the most positive factor loading on the particular mass media content factor. The second mass media content type represented the respondents with the most negative factor loading. This Q-type factor analysis was used to address the first and second questions.

Once these mass media content factors and types were identified

for each age group, the measurements of demographic variables for each of the respondents were used to predict the factor loadings of each respondent for each factor identified by the Q-type factor analysis. To do this, stepwise multiple linear regression analyses were run for each mass media content factor using the demographic variables as independent (or predictor) variables and the respondents' factor loadings as dependent (or criterion) variables. These regression analyses described the relative strength of each of the demographic variables included in the study, thus providing the answer to the third question.

In addition, by observing the percentage of variance accounted for by the demographic variables for each of the factors produced by the Q-type factor analysis, the fourth question was answered. If the demographic variables did a good job of describing the mass media content factors identified, they would account for a high percentage of the variation in these factors. If the mass media content factors have identified distinct groups of mass media consumers (patterns of mass media exposure), then the percentage of variance accounted for by these demographic variables would be relatively low.

Method

Respondents

One hundred and sixteen seventh graders (approximately ninety percent of the class) from the Edison Intermediate School in Waterloo, Iowa completed all of the survey materials between October 25 and October 29, 1982, and were included in the data analyses.[32] The Edison Intermediate School was selected because of the

willingness of the school's principal to cooperate and because it the was representative of seventh graders in Waterloo, Iowa.

The Survey Instrument

The survey instrument had two parts. First, each respondent was asked to keep a daily diary of his/her mass media exposure for one week (Friday through Thursday). Second, each respondent completed a questionnaire to obtain demographic information, additional information about exposure to books and motion pictures, and information not reported in this paper. A sample daily diary and questionnaires are in Appendix A.

The daily mass media diaries were completed during school hours. On Monday of the survey week, the questionnaire and the first three daily mass media diaries (for the previous Friday, Saturday, and Sunday) were completed. On Tuesday through Friday, the previous day's daily mass media diary was completed.

Measurement of Media Content Categories

Ninety categories of content from seven major mass media (television, radio, recordings, newspapers, magazines, motion pictures, and books) were measured in the study. Specific content categories varied for each mass medium, as did the procedures for measuring each respondent's exposure to each mass medium.

TELEVISION - The individual television programs which had appeared on any of the three commercial network affiliates in the survey area during the survey weeks, as well as all television programs listed by the respondents were reduced to 18 mutually exclusive content categories. These television content categories

were sports, game shows, religious programs, movies, news and public affairs, daytime soap operas, children's programs (including cartoons), action/adventure programs, heavy dramas, light dramas, situation comedies, human interest programs, talk shows, country music/variety, comedy, Music Television (MTV), public broadcasting (all programs on the Iowa Public Broadcasting Network), and other.

Except for light drama, heavy drama, situation comedy, and action/adventure programs,[33] I assigned the television programs listed for the three network affiliated stations in the area and the programs written in by the respondents to one of 14 television content categories.

Each respondent's exposure to each of the 18 content categories was equal to the total number of half hours spent by the respondent watching programs in that content category during the survey week. The program titles for each of the 18 content categories are included in Appendix B.

RADIO - Individual radio stations were classified based on seven basic format categories available in the survey area: rock (including Top-40 and adult rock), country, MOR (including oldies and beautiful music stations), public radio, information, religious, and Black. The call letters of the stations assigned to each of these format categories are included in Appendix B.

Each respondent's exposure to each of these seven radio content categories (formats) was equal to the total number of quarter hours spent listening to each station in a given content category during the survey week.[34]

RECORDINGS - The basic unit of analysis for recordings content was the time spent listening to a category of recordings each day as measured in quarter hours. Each respondent's exposure to recordings for three basic categories of music--rock, country, and classical--was recorded as part of each day's daily diary. The total exposure to each of these categories of recordings content was the total number of quarter hours noted by the respondent during the survey week.

In addition, respondents could record in each daily diary other types of music and non-music recordings to which they had listened. Respondents then identified the type of music or non-music recording to which they listened. I reduced these open-ended responses to eight additional categories: soul, jazz, beautiful music, comedy, gospel, pop, New Wave, and other. The total exposure time for each respondent for these additional categories during the survey weeks was recorded in quarter hours.

MOTION PICTURES - Motion picture content categories were derived by examining the films shown in the Cedar Falls/Waterloo area in the two months previous to the two survey weeks. Eleven categories of content emerged from the analysis of these film titles (science fiction and fantasy, comedy, romantic/dramatic comedy, dramatic, teen appeal, sex, horror, action/adventure, children's, E.T. the Extra-Terrestrial, and art films).

After viewing most of the motion pictures used in the study, I assigned each of these motion pictures to one of the eleven categories.[35] The titles of the motion pictures that were included in

each content category are listed in Appendix B.

Each respondent's exposure to each of the eleven motion picture content categories was equal to the total number of exposures the respondent recorded for the motion pictures in that content category.

NEWSPAPERS - Daily exposure to newspapers was measured by having each respondent select from one of seven choices: didn't read, 1-5 minutes, 6-15 minutes, 16-30 minutes, 31-45 minutes, 45-60 minutes, and more than 60 minutes. A zero to six scale with each number representing one of the seven choices was used.[36]

Newspaper content was classified using sections or subdivisions found in most local daily newspapers. Fifteen categories of newspaper content were used in the study: international news, national news, local news, editorials and political columns, sports, women's section, entertainment section, comics, advice columns, business and finance, obituaries, crossword puzzles, classified ads, other advertisements, and other parts of the newspaper.

The measurement of each of the 15 newspaper content categories involved three steps. First, each respondent rated 15 categories of newspaper content (see Appendix A - questionnaire) on a 5 point scale (1=never read, 2=seldom read, 3=sometimes read, 4=usually read, 5=always read) based on his or her likelihood of reading this section when reading the newspaper. Second, the weekly newspaper exposure for each respondent was obtained by summing the measure of daily newspaper exposure for each of the seven survey days. Finally, The exposure rating for each respondent for each content category was

obtained by multiplying his or her content rating (adjusted to a zero based scale where 1=0,2=1,3=2,4=3,5=4) by his or her total exposure to newspapers for the week (scores ranging from zero to 42). Thus, the maximum score for any of the 15 content categories was 168 (4 X 42), and the minimum score was zero.

MAGAZINES - Daily exposure to magazines was measured by having each respondent select from one of seven choices: didn't read, 1-5 minutes, 6-15 minutes, 16-30 minutes, 31-45 minutes, 45-60 minutes, and more than 60 minutes. A zero to six scale with each number representing one of the seven choices was used.

Respondents also indicated the five magazines that they read most frequently, in order of preference. These magazine titles were coded into 23 mutually exclusive content categories.[37] These were sports, hunting and outdoors, music, motor vehicle, male sexual, female adolescent, women's traditional roles, women's non-traditional roles, news magazines, celebrity gossip, mass circulation, science and technology, upscale, activities and hobbies, Black, religious, humor, professional journals, adult illustrated, business, comic books, children's, and other. The magazines assigned to each of these content categories are listed in Appendix B.

The construction of each respondent's score for each of the 23 magazine content categories was accomplished in three steps. First, each magazine listed by the respondent was weighted based on its order of exposure. The magazine listed first was given a value of 5, the magazine listed second a value of 4, and so forth. Next, for each respondent for each content category, the values of all of the

magazines listed by the respondent in each content category were totaled. The maximum score for a respondent for any given content category was 15 (if all five magazines listed were part of that content category). The minimum score was zero. Finally, the score obtained for each content category was multiplied by the respondent's total exposure to magazines during the survey week (scores ranged from zero to 42). Thus, the maximum score for any content category was 630 (15 X 42) and the minimum was zero.

BOOKS - The basic unit for book content was the individual title. The large number of possible book titles necessitated the coding of each book title by the respondent. This also forced a relatively small number of content categories to be used to simplify the coding procedure. The total exposure for each of the five content categories of books (action/adventure, romantic novel, popular novel, non-fiction, and other) was obtained for each respondent by summing the number of books coded by the respondent into a given category. The minimum score was zero and the maximum score was nine for each content category.

Measurement of Demographic Variables

Seven demographic variables (sex, father's education, mother's education, number of household members, age, father's occupation, mother's occupation, and a measure of academic achievement--the respondent's composite score for the Iowa Tests of Basic Skills) were measured. All information on demographic variables, except for academic achievement, were reported by the respondents on one page of the questionnaire (see Appendix A). The composite scores on the Iowa

Tests of Basic Skills were obtained from the Waterloo Community Schools.

Subsequently, the father and mother occupations listed by the respondents were coded by myself and another trained coder using the National Opinion Research Center occupational prestige scale.[38] The father and mother occupational prestige scores used in the data analyses were the means of two coders' ratings of each occupational response.[39] The household occupational prestige score for each respondent was then defined as the larger of these two parental occupational prestige scores.

For all demographic variables except sex, missing data were replaced with mean scores for all respondents.

Data Analyses

A Q-type factor analysis was used to reduce the 90 categories of media content into four mass media content exposure factors.[40] The Q-type factor analysis was computed using the Quanal program.[41]

After the four mass media content factors were isolated, four multiple regression analyses were run using the demographic variables as independent variables and the respondents' factor loadings for each mass media content factor as dependent variables. The multiple regression analyses were computed using the SPSS-X statistical package.

Results

Descriptive Data

The means, standard deviations, and number of persons responding to each of the variables used in this study are recorded in Appendix C.

Q-Type Factor Analysis

The Q-type factor analysis of the respondents' total exposure to each of the 90 mass media content variables (categories) is summarized in Table 1.[42]

Four factors were extracted from the varimax rotation and these were split into eight types.[43] If over 25 percent of the variance in a factor is negative, the Quanal program splits a factor into two types. The first type represents the respondents who are positive on that factor. The second type represented the respondents who are negative on the factor. The four factors had the following eigen values: factor 1 (10.32), factor 2 (6.57), factor 3 (6.35), and factor 4 (5.46). The four factors accounted for a total of 24.75 percent of the variance. The variance accounted for by each factor is presented in Table 1.

The mass media content categories that best describe each type are included in Table 1. For this analysis, a variable was included as a descriptor for a particular type if the z-score for that variable on that type was more than one and one half standard deviation from the mean (+ or - 1.5).

Respondents were assigned to the type on which their factor weight was the highest. The total number of respondents assigned to each mass media type is included in Table 1.

In addition to the number of respondents assigned by the Quanal program to any particular type, a second number of respondents was provided for each type based on Stephenson's criteria for respondents

Table 1

Mass Media Content Factors and Types

Percentage of variance accounted for by each factor is in parentheses. Number of subjects for each type is in brackets. The first number equals the number of subjects who best fit this type. The second equals the number of these subjects with a factor weight above .4.

		Descriptive Variables	Z-Score
Factor 1 - Type 1 ("FEMALE" READERS)			
(6.58)	[16,13]	Books-Romantic Novels	3.733
		Books-Popular Novels	3.230
		Films-Dramatic	2.634
		Films-Children's	2.447
		TV-Situation Comedies	2.135
		Magazines-Female Adolescent	1.880
		Magazines-Women's Non-Trad.	1.773
		TV-Heavy Dramas	1.564
- Type 5 ("MALE" NEWPAPER READERS)			
	[14,8]	Newspaper-National News	2.906
		Newspaper-Classified Ads	2.661
		Newspaper-Other Ads	2.607
		Newspaper-Sports	2.450
		Newspaper-Local News	2.399
		Newspaper-International News	2.272
		Newspaper-Entertainment	2.182
		Newspaper-Comics	1.915
		TV-Human Interest	1.562
		TV-Situation Comedies	-1.697
Factor 2 - Type 2 ("MALE" TV WATCHERS)			
(6.60)	[21,11]	TV-Action/Adventure	2.651
		Radio-Information	2.478
		TV-Human Interest	2.219
		Magazines-Heavy Metal	1.944
		Radio-Black	1.881
		TV-Sports	1.508
		Newspaper-Local News	-1.514
		Newspaper-Classified Ads	-1.556
		Newspaper-Sports	-1.557
		Newspaper-Entertainment	-1.614
		Films-Romantic/Comic	-1.717
		Newspaper-Comics	-2.163
- Type 6 ("FEMALE" NEWSPAPER READERS)			
	[13,8]	Newspaper-Editorials	2.774
		Newspaper-Advice Columns	2.402
		Recordings-New Wave	2.248
		Newspaper-National News	2.063
		Newspaper-Local News	2.005
		Newspaper-Women's Section	1.978
		Newspaper-Entertainment	1.817
		Newspaper-International News	1.663
		Newspaper-Comics	1.580
		Newspaper-Obituaries	1.506

Table 1 Continued

		Descriptive Variables	Z-Score
Factor 3 - Type 3 (UPSCALE COUNTRY)			
(5.81)	[16,11]	Radio-Country Music	2.776
		Radio-Religious	1.846
		Magazines-Upscale	1.843
		Magazines-Male Sexual	1.842
		TV-Public Broadcasting	1.699
		Recordings-Classical	1.690
		Radio-Public	1.662
		Newspaper-Sports	-1.520
		Newspaper-Comics	-1.663
		Films-Action/Adventure	-2.238
		TV-Situation Comedies	-2.352
		TV-Action/Adventure	-2.498
- Type 7 (GENERAL TV WATCHERS)			
	[9,6]	TV-Sports	2.758
		TV-News & Public Affairs	2.597
		TV-Comedy	2.565
		TV-Daytime Serials	2.480
		TV-Situation Comedies	2.392
		Newspaper-Sports	1.910
		TV-Country Music	1.854
		TV-Game Shows	1.722
		TV-Light Dramas	1.543
Factor 4 - Type 4 ("MALE" MOVIE GOERS)			
(5.75)	[15,9]	Films-Sex	3.581
		Films-Action/Adventure	3.553
		Films-Teen	2.365
		TV-MTV	2.276
		Films-Comedy	1.870
		Films-Romantic/Comedy	1.812
		Films-Horror	1.745
		Magazines-Motor Vehicle	1.684
		Books-Non-Fiction	1.542
- Type 8 (NON-NEWS READERS)			
	[12,8]	Magazines-Gossip	3.042
		Newspaper-Business News	2.243
		Newspaper-Advice Columns	2.229
		Books-Action/Adventure	1.950
		Newspaper-Women's Section	1.651
		Newspaper-Classified Ads	1.607
		Recordings-Country Music	1.535
		Newspaper-Crossword Puzzles	1.517
		Films-Action/Adventure	-1.500

that best fit a particular type.[44] The total number of respondents assigned to each mass media type, based on these criteria, is included in Table 1.

The four factors and eight types were interpreted as follows.

FACTOR 1 - Factor 1 split into type 1 and type 5. Type 1 respondents were high in exposure to books, films, and magazines of interest to females. Type 1 respondents were very high in exposure to romantic novels, popular novels, dramatic motion pictures (principally An Officer and A Gentlemen), children's films (principally the musical Annie), female adolescent magazines, and women's non-traditional magazines. These respondents were labeled "Female" Readers.[45]

Type 5 respondents were high in exposure to eight categories of newspaper content. Since they were the opposites of the "Female" Readers, they were labeled "Male" Newspaper Readers.

FACTOR 2 - Factor 2 split into type 2 and type 6. Type 2 respondents were highest in exposure to television action/adventure and human interest programming, and had high exposure to television sports. Type 2 respondents also had high exposure to several types of content with limited appeal to the typical seventh grader: information radio, Black radio, and heavy metal magazines. Type 2 respondents were also low in exposure to five categories of newspaper content. These respondents were labeled "Male" TV Watchers.

Type 6 respondents were high in nine categories of newspaper content and represent a second type of newspaper reader. Since these respondents were the opposite of the "Male" TV Watchers, they were

labeled "Female" Newspaper Readers.

FACTOR 3 - Factor 3 split into type 3 and type 7. Type 3 respondents were high in exposure to several kinds of upscale media (upscale magazines, public broadcasting, public radio, and classical recordings). They were also highest in exposure to country radio and religious radio stations. They were low in exposure to two kinds of entertainment television (action/adventure and situation comedies) and two non-news sections of the newspaper (comics and sports). These respondents were labeled Upscale Country.

Type 7 respondents were high in exposure to a wide variety of television programming and were labeled General TV Watchers.

FACTOR 4 - Factor 4 split into type 4 and type 8. Type 4 respondents were high in exposure to the categories of film content of particular interest to males, and MTV, which has a higher percentage of male viewers than female viewers. These respondents were labeled "Male" Movie Goers.

Type 8 respondents were high in exposure to a wide variety of print media content (gossip magazines, newspaper business news, newspaper advice columns, action/adventure books, newspaper women's section, newspaper classified ads, and newspaper crossword puzzles). In general, this type of reader avoided any hard news content. These respondents were labeled Non-News Readers.

In summary, the Q-type factor analysis of exposure to mass media content variables isolated eight mass media types: "Female" Readers, "Male" Newspaper Readers, "Male" TV Watchers, "Female" Newspaper Readers, Upscale Country, General TV Watchers, "Male" Movie Goers,

and Non-News Readers.

Multiple Regression Analyses

Stepwise multiple linear regression analyses were run for each mass media content factor isolated by the Q-type factor analysis. The independent variables used in each of these four regression analyses were: sex, age, father's education, mother's education, academic achievement, household occupational prestige, and household size. The dependent variables were the factor loadings for each respondent for each of the four mass media content factors. The results of these four regression analyses are summarized in Table 2. Each factor represents two types and was identified by the labels given to the type most positively associated with the factor and the type most negatively associated with the factor. Only independent variables with a significance level exceeding .05 are included in Table 2.

For mass media content factor 1, "Female" Readers versus "Male" Newspaper Readers, sex, academic achievement, and mother's education were all significantly related to respondent loadings. Sex accounted for over 15 percent of the variance. Females were more likely to be identified positively with this factor. Academic achievement was negatively associated with the factor, but accounted for only about four and one-half percent of the variance. Mother's education was positively related to the factor, but accounted for only slightly over four percent of the variance.

For mass media content factor 2, "Male" TV Watchers versus "Female" Newspaper Readers, sex was once again the strongest

Table 2

Multiple Linear Regression Analysis

Significance levels for the regression equations are in parentheses. Total percentage of the variance accounted for by all of the variables in each equation is in brackets.

	Variables in Equation	R^2	Beta Weight	Sigificance Level(Var.)
FACTOR 1				
"Female" Readers vs. "Male" Newspaper Readers				
	Sex	.152	.430	.000
(.000)	Academic Achievement	.045	-.257	.003
	Mother's Ed.	.043	.213	.014
		[23.976]		
FACTOR 2				
"Male" TV Watchers vs. "Female" Newspaper Readers				
	Sex	.140	-.360	.000
(.000)	Academic Achievement	.049	-.222	.010
		[18.885]		
FACTOR 3				
Upscale Country vs. General TV Watchers				
	Sex	.042	.211	.022
(.009)	Family No.	.038	.196	.032
		[8.018]		
FACTOR 4				
"Male" Movie Goers vs. Non-News Readers				
	Sex	.054	-.233	.012
(.012)		[5.437]		

predictor, accounting for about 14 percent of the variance. Male seventh grade respondents were much more likely to be positively associated with this factor than were females. In addition, academic achievement was negatively related to this factor, accounting for an additional five percent of the variance (i.e., academic achievement was positively related to newspaper reading and negatively related to television viewing when variance due to sex was eliminated).

The demographic variables were relatively weak predictors of the seventh graders' loadings on both mass media content factors 3 and 4. Both sex and household size were significantly and positively related to mass media content factor 3, Upscale Country versus General TV Watchers. But each of these variables accounted for only about four percent of the variance. For mass media content factor 4, "Male" Movie Goers versus Non-News Readers, only sex was significantly related, but it accounted for only about five and one-half percent of the variance. Males were slightly more likely to be identified with this factor than females.

Conclusions

The conclusions will focus on the four major questions posed at the beginning of this paper.

1. What are the mass media content types (patterns of exposure to mass media content) among older children in a given mass media environment (geographic area)?

This initial question was directly answered by the Q-type factor analysis of exposure to 90 categories of mass media content. The mass media content types identified by this analysis were as follows:

"Female" Readers, "Male" Newspaper Readers, "Male" TV Watchers, "Female" Newspaper Readers, Upscale Country, General TV Watchers, "Male" Movie Goers, and Non-News Readers.

Two limitations on the generalizability of these types should be noted. First, the respondents in this study came from one community in Iowa. Thus, they did not reflect regional differences in mass media exposure that might exist elsewhere in the United States, or in other countries.

Second, only a few respondents had any exposure to several categories of mass media content during the survey week. These badly skewed variables represented the responses of only a small number of respondents and, thus, may not have been representative of most consumers of that particular content.[46] For example, among the respondents, exposure to information radio was a strong descriptive variable for type 2 respondents, "Male" TV Watchers. However, only four respondents had any exposure to this type of radio. These four may be representative of most seventh grade information radio listeners, but such a small number does not inspire confidence in this conclusion.

Despite these limitations, the mass media and mass media content types identified in this study were the first isolated for a sample of older children living in the United States. Also, the types that were isolated were the strongest types (in terms of variance accounted for), and thus are the most clearly distinguished from the rest of population.

2. Are the mass media content types isolated in this study more

typically described by a specific medium (TV types, newspaper types, radio types, etc.), as in previous studies of non-U.S. samples, or by particular types of content common to several mass media (action/adventure types, news types, romance types, etc.)?

Of the mass media content types identified in this study, four types ("Male" Newspaper Readers, "Female" Newspaper Readers, General TV Watchers, and "Male" Movie Goers) were characterized by exposure to content within a particular medium. And four types ("Female" Readers, "Male" TV Watchers, Upscale Country, and Non-News Readers) were characterized by exposure to content from several different media. Thus, the mass media types identified in this study included both "media" types and "content" types in equal amounts.

3. What demographic variables are most strongly related to each of the mass media content types identified in the study?

Of the demographic variables used in these analyses, only sex was found to be frequently significant predictors of mass media content factors. Sex was a significant predictor in all four of these regression analyses, and was also the strongest predictor in all four. Of the other variables (father's education, mother's education, academic achievement, household occupational prestige, and household size) only academic achievement was a significant predictor in more than one regression analysis (significant in two analyses).

4. Are the mass media types identified isomorphic with certain demographic variables, or do they represent distinct descriptions of patterns of mass media exposure?

The demographic variables used in the study were relatively weak

predictors of the mass media and mass media content factors isolated in the study. Of the four regression analyses run using the demographic variables as independent variables and the mass media content factor loadings as dependent variables, only two analyses accounted for more than ten percent of the variance in the dependent variables. Of these two analyses, none accounted for over 25 percent of the variance. This meant that the types described by the Q-type factor analysis were not isomorphic with types that might be described by the demographic variables used in this study.

Discussion

This study was inspired by the common belief expressed by several mass communication scholars that habitual patterns of media exposure will lead to the development and maintenance of certain attitudes and behaviors. Lippman's "pictures in our heads," Becker's Communication Mosaic, and Schramm's stalagmite analogy all suggest that the effects of mass media usually come not from a single message, but from the consistent presentation of certain images, ideas, or attitudes over a long period of time. And since people differ in the combinations of media that they consume, they should vary in the degree to which the media have an effect on any specific attitude. By isolating the common patterns of exposure to media content, as this study has done, the mass media scholar should be able to more precisely identify the types of media consumers most likely have a particular media produced attitude.

For example, one might expect to find higher levels of political knowledge among the "Female" Newspaper Readers and "Male" Newspaper

Readers identified in this study. Or because of heavy media reinforcement of traditional attitudes about women, the "Male" Movie Goers and "Male" TV Watchers might well maintain sexist attitudes about the roles of women in society. Similarly, because of their heavy consumption of violent media content, these two types might have more positive attitudes about the use of aggression and higher levels of perceived violence.[47]

The thrust of this study was to identify types based on exposure to a wide range of mass media content, rather than to rely on a single medium (television, newspapers, etc.) or a specific type of content available in several media (news, action/adventure, etc.). These mass media content types should provide mass communication researchers with clearer direction in their search for mass media effects.

Future Research

Future research on mass media content types should first establish the reliability of the types identified in this study. A second study will show which of the types identified in this study, if any, are common to another region of the country and which types were unique to this study. This second study should be conducted in region of the United States that differs considerably from the Waterloo, Iowa Area, but should use the same or very similar methodology, to facilitate a comparison of results.

Next, a longitudinal study using a national sample of respondents should be completed. This study will provide an analysis of the changes in mass media content types as they age. A longitudinal

study would isolate not only what mass media content types change, but how they change with age, thus identifying how patterns of mass media exposure evolve over time.

NOTES

1 This assumption is a major component of the uses and gratifications approach to mass communication as summarized by Katz, Blumler, and Gurevitch. The uses and gratifications approach is "concerned with (1) the social and psychological origins of (2) needs, which generate (3) expectations of (4) the mass media and other sources, which lead to (5) differential patterns of media exposure [my underline] (or engagement in other activities), resulting in (6) need gratification and (7) other consequences, perhaps mostly unintended ones." See Elihu Katz, Jay G. Blumler, and Michael Gurevitch, "Utilization of Mass Communications by the Individual," in The Uses of Mass Communications: Current Perspectives on Gratifications Research, eds. Jay G. Blumler and Elihu Katz (Beverly Hills, Cal.: Sage Publications, 1974), p. 20.

2 It should be noted here that mass media exposure is not the only way in which users of mass media have been typed. The uses and gratifications approach has generated research that classified individuals based on their uses of the mass media (surveillance, entertainment, para-social interaction, etc.). These different expectations of the mass media are assumed to lead to differential patterns of media exposure (See Katz, Blumler, and Gurevitch). In this study, I was interested in finding the patterns of mass media exposure that are part of the consumer's use of mass media regardless of whether this exposure is motivated by a specific need, or caused by some other source (e.g. the means to use media content, the time of day available for viewing, group influences on media selection).

3 Bradley S. Greenberg, "Gratifications of Television Viewing and Their Correlates for British Children," in The Uses of Mass Communications: Current Perspectives on Gratifications Research, eds. Jay G. Blumler and Elihu Katz (Beverly Hills, Cal.: Sage Publications, 1974), p. 87.

4 Ellen Wartella, Alison Alexander, and Dafna Lemish, "The Mass Media Environment of Children," American Behavioral Scientist, 23 (1979), pp. 42-43.

5 George Comstock, Steven Chaffee, Natan Katzman, Maxwell McCombs, and Donald Roberts, Television and Human Behavior (New York: Columbia University Press, 1978).

6 Robert Avery, "Adolescents' Use of the Mass Media," American Behavioral Scientist, 23 (1979), 59.

7 Walter Lippman, "The World Outside and the Pictures in Our Heads," in The Process and Effects of Mass Communication, eds. Wilbur Schramm and Donald Roberts (Urbana, Illinois: University of Illinois Press, 1971), pp. 265-286.

8 Samuel L. Becker, "Visual Stimuli and the Construction of Meaning," in Visual Learning, Thinking, and Communication, eds. Bikkar S. Randhawa and William E. Coffman (New York Academic Press, 1978), p. 44.

9 George Gerbner and Larry Gross, "Living with Television: The Violence Profile," Journal of Communication, 26, No. 2 (1976), 173-199.

10 Wilbur Schramm, in William E. Francois, Introduction to Mass Communications and Mass Media (Columbus, Ohio: Grid, Inc., 1977), pp. 139-140.

11 See James R. Walker, "Patterns of Mass Media Exposure Among Adults, High School Juniors, and Seventh Graders," Diss. University of Iowa 1984, pp. 19-45.

12 Philip Anast, "Attitudes Toward the Press as a Function of Interests," Journalism Quarterly, 38 (1961), 376-380.

13 Anast, p. 378.

14 John N. Bornholdt, Jr., "Should the Student Press Be More Serious?" Journalism Quarterly, 43 (1966), 560-562.

15 Bornholdt, p. 561.

16 Guido H. Stempel III, "A Factor Analytic Study of Reader Interest in News," Journalism Quarterly, 44 (1967), 326-330.

17 Stempel, p. 328.

18

Peter Clarke, "Does Teen News Attract Boys to Newspapers?" Journalism Quarterly, 45 (1968), 7-13.

19

For example, factor 4 included items about boys' hair styles, the Rolling Stones, local dance and teen activities, a teen opinion column, and current hit records.

20

L. Erwin Atwood, "How Newsmen and Readers Perceive Each Others' Story Preferences," Journalism Quarterly, 47 (1970), 296-302.

21

Michael Ryan, "News Selection Patterns Among Non-White, Urban Slum Residents," Journalism Quarterly, 53 (1976), 441-447.

22

James E. Grunig, "Time Budgets, Level of Involvement and Use of the Mass Media," Journalism Quarterly, 56 (1979), 248-261.

23

Edward W. Dunn, Jr., "Mexican-American Media Behavior: A Factor Analysis," Journal of Broadcasting, 19 (1975), p. 5.

24

Dunn, p. 8.

25

Dunn, p. 9.

26

Richard R. Martin, John T. McNelly and Fausto Izcaray, "Is Media Exposure Unidimensional? A Socioeconomic Approach," Journalism Quarterly, 53 (1976), 619-625.

27

Martin et al., p. 624.

28

Martin et al., p. 624.

29

Douglas A. Boyd, "A Q-Analysis of Mass Media Usage of Egyptian Elite Groups," Journalism Quarterly, 55 (1978), 501-507, 539.

30

Robert D. McIlwraith and John R. Schallow, "Adult Fantasy Life and Patterns of Media Use," Journal of Communication, 33, No. 1 (1983), 78-91.

31

McIlwraith and Schallow, p. 82.

32

Pretesting of 16 Edison Intermediate School seventh graders was conducted from October 11 to October 15, 1982. The results of the pretesting led to some adjustments in the daily mass media diaries used in the study. A more detail discussion of the method is available elsewhere. See Walker, pp. 66-112.

33

Because light dramas, heavy dramas, situation comedies, and action/adventure programs are the most viewed types of entertainment programs on television, extra care was taken in classifying programs into these categories. One faculty member and two graduate students at the University of Iowa (with special interest in television programming), and I classified all of the programs that might be included in any one of these categories into one of the four content categories. When the coders disagreed on the classification of a program. the program was placed in the category receiving the highest number of codings for that program.

34

Since news is available on most radio stations, and thus could not be measured using the above procedure, exposure to radio news was measured using the following procedure. For each day of the survey week, respondents recorded their exposure to radio news on a seven point scale: 1=not at all, 2=one time, 3=two times, 4=three times, 5=four times, 6=five times, 7=heard the news more than 5 different times (see Appendix A). The total exposure to radio news for each respondent was the total of that respondent's daily ratings for the survey week. In several instances, respondents circled the call letters of a radio station and/or a category of recordings without indicating how much time they had spent listening to that radio station and/or type of recording during that day. When this situation occurred, the respondent was credited with one quarter hour of listening time for that station and/or type of recording. If the respondent did this throughout the daily diaries, the respondent was dropped from the final data analysis.

35

Motion pictures that I had not seen were classified by consulting with graduate students at the University of Iowa who had seen the films. In addition, a small number of motion pictures were classified based on the advertisements that appeared for them in The Waterloo Courier. Generally, these were drive-in movies that had been shown during September and October of 1982.

36

Although this procedure improved the response rate in the survey over the rate achieved during the pretest, a number of respondents did not answer these questions during some of the survey days while still completing the other sections of the daily diary. I decided that, since the other sections of the daily diary had been completed, the absence of a response to either the amount of time spent reading the newspaper or the amount of time spent reading

magazines could most accurately be interpreted, in most instances, as meaning that the respondent had not read the newspaper or magazines during that day. This may have led to a slight underestimating of the total exposure to newspapers and magazines for a few respondents but seemed preferable to dropping the respondents from the data analysis, or treating their weekly totals for newspapers and/or magazines as missing data because of one or two survey days with missing data.

37 When I was not familiar with the content of a particular magazine, Ulrich's International Periodicals Directory was consulted to determine the magazine's content.

38 See Nan Lin, Foundations of Social Research (New York: McGraw-Hill, 1976).

39 Of special concern in the occupational prestige coding were four common responses. First, housewives and homemakers are not treated as an occupation on the National Opinion Research Center occupational prestige scale. Instead of being treated as missing data, this common response was given the same numeric value as that of a private household worker (22 on a 100 point scale). Second, the responses "retired," "unemployed," and "student" were treated as missing data because the previous or future occupation of the person was unknown.

40 Ninety content categories were coded in the study, but six of these categories were "other" categories (other television programs, other magazines, other parts of the newspaper, other books, other recordings, and pop recordings). Since the content in these categories was not of any consistent type or meaning, these categories were not used in the factor analyses.

41 For more information on the QUANAL program see: N. Van Tubergen, QUANAL Users Guide (Weeg Computing Center, University of Iowa, 1975).

42 A more detailed version of table 1 is available elsewhere. See Walker, pp. 118-121.

43 Varimax rotation could not be accomplished for more than four factors.

44 According to Stephenson, these were respondents whose factor weight was highest for a particular type and whose factor weight was above .4.

45

When the words male or female are used as part of the label assigned to a mass media content type, these words refer to patterns of exposure to media content traditionally consumed by males or traditionally consumed by females. It does not necessarily refer to the respondents' biological sex. To indicate this distinction the words male or female will be placed in parentheses when they are used as part of the descriptive label for a mass media content type or factor.

46

The variables with fewer than six respondents listing some exposure were as follows: public television, televised religious programs, art films, religious radio, information radio, public radio, soul recordings, jazz recordings, beautiful music recordings, comedy recordings, gospel recordings, popular recordings, New Wave recordings, music magazines, male sexual magazines, women's non-traditional magazines, other activities magazines, Black magazines, religious magazines, professional magazines, illustrated magazines, and business magazines.

47

Data analysis is currently underway to test each of the speculations made here. The items measuring political knowledge, sexism, tendency to use aggression, and perceived violence in society are included in the sample questionnaire in Appendix A.

APPENDIX A

SAMPLE DAILY MASS MEDIA DIARY

AND QUESTIONNAIRE

FRIDAY'S DIARY

Please record all of the mass media that you used on Friday, October 22 in this three page diary.

We would like to know what television programs you saw Friday.

1. If you remember watching more than 1/2 of any of the programs listed below, please circle the name of that program.

2. If you were watching a program on a station other than KWWL-channel 7, KGAN-channel 2, or KCRG-channel 9 during any of the times listed below, please write in the name of the program or the station.

Here are some of the most common other stations:

Ch. 32-IPBN (Iowa Public Broadcasting)
WTBS-Atlanta (movies, sports, other)
WGN-Chicago (movies, sports, other)
WOR-New York (movies, sports, other)
CBS Cable (cultural, fine arts, movies)
CNN-Cable News Network
MTV-Music TV (rock music)
USA Network (sports, other)
ESPN (all sports)
CBN (religious, movies, other)
ARTS (cultural, fine arts)
CNN 2 (shorter news summaries)

PAY CHANNELS
HBO (movies, other)
Showtime (movies, other)
Movie Channel (all movies)

PLEASE CIRCLE OR WRITE-IN THE BLANK

TIME	KWWL-Channel 7-NBC	KGAN-Channel 2-CBS	KCRG-Channel 9-ABC	Programs on Another Station
MORNING				
7:00 AM	Today	CBS News	Good Morning America	_____
7:30	(1st hour)	(2nd hour)	(1st hour)	_____
8:00	Today	$25,000 Pyramid	Good Morning America	_____
8:30	(2nd hour)	Child's Play	(2nd hour)	_____
9:00	Different Strokes	Phil Donahue	Good Morning Eastern Iowa	_____
9:30	Wheel of Fortune	"	Hooper Room & Friends	_____
10:00	Texas	Price is Right	Love Boat	_____
10:30	"	"	"	_____
11:00	Richard Simmons	Young and the Restless	Family Feud	_____
11:30	Search for Tomorrow	"	Ryan's Hope	_____

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PLEASE CIRCLE

TIME	KNNL-channel 7-NBC	KGAN-channel 2-CBS	KCRG-channel 9-ABC	Programs on Another Station
AFTERNOON				
12:00	Newscenter 7	2 Action News	All My Children	
12:30	Days of Our Lives	As the World Turns	"	
1:00	"	"	One Life to Live	
1:30	Another World	Capitol	"	
2:00	"	Guiding Light	General Hospital	
2:30	Fantasy	"	"	
3:00	"	Muppet Show	Edge of Night	
3:30	Soap World	Scooby-Doo	Joker's Wild	
4:00	Mork & Mindy	Brady Bunch	Hour Magazine (1st half)	
4:30	People's Court	Welcome Back, Kotter	Hour Magazine (2nd half)	
5:00	Entertainment Tonight	Alice	Happy Days Again	
5:30	NBC Nightly News	CBS Evening News	ABC World News Tonight	
EVENING				
6:00	Newscenter 7	2 Action News at 6	TV9 Eyewitness News	
6:30	PM Magazine	M*A*S*H	Tic Tac Dough	
7:00	Powers of Matthew Star	Dukes of Hazzard	Benson	
7:30	"	"		
8:00	Knight Rider	Dallas	The New Odd Couple	
8:30	"	"	The Quest	
9:00	Remington Steele	Falcon Crest	"	
9:30	"	"	"	
10:00	Newscenter 7	2 Action News	TV9 Eyewitness News	
10:30	Tonight Show	Barney Miller	Nightline	
11:00	"	Rockford Files	Friday's	
11:30	SCTV Network	"	"	
12Mid	"	Movie: Siege at Red River	"	
12:30	"	"	Emergency	
1:00 AM	NBC News Overnight	"	"	

3. How many minutes did you spend reading daily newspapers Saturday? Please circle one choice.

(1) didn't read (2) 1-5 minutes (3) 6-15 minutes (4) 16-30 minutes

(5) 31-45 minutes (6) 45-60 minutes (7) more than 60 minutes

4. Please circle the call letters of any of the following radio stations that you listened to Saturday for more than 5 minutes. (Please include the time you spent listening to a car radio.)

AM Stations:

KWLO_____ 1330	KLEO_____ 850	KNWS_____ 1090	WNT_____ 600
KXEL_____ 1540	KCFI_____ 1250	KWAY_____ 1470	WHO_____ 1040

FM Stations:

KCNB-FM_____ 105.7	KFMW-FM_____ 107.9	KBBG-FM_____ 88.1	KQCR-FM_____ 102.9
KUNI-FM_____ 90.9	KHKE-FM_____ 89.5	KNWS-FM_____ 101.9	WBT-FM_____ 96.5

5. For each station that you circled above, please estimate to the nearest 1/4 hour how long you listened to that station. (Use 1/4 hour if you listened to a station between 5 and 15 minutes.)

6. Please list ANY other radio stations that you listened to Saturday for more than 5 minutes, and estimate to the nearest 1/4 hour how long you listened to those stations.

7. How many times did you hear the news on the radio Saturday? (This would include short as well as longer newscasts.) Please circle one choice.

(1) not at all (2) one time (3) two times (4) three times

(5) four times (6) five times (7) more than five times

8. Please circle any of the types of recordings (records and tapes) listed below that you remember listening to Saturday. (Make sure you include any tapes that you listened to in a car.)

Rock Music_____Hrs. Country Music_____Hrs. Classical Music_____Hrs.

Other Types of Music_____Hrs. (please identify)_____

Non-Music Recordings_____Hrs. (please identify)_____

9. For each type of recording that you circled above, please estimate to the nearest 1/4 hour how long you listened to that type of recording. (Use 1/4 hour if you listened to a type of music between 5 & 15 minutes.)

10. How many minutes did you spend reading magazines Saturday? (Please include comic books, and weekly national newspapers like The National Star or The National Enquirer.) Circle one choice.

(1) didn't read (2) 1-5 minutes (3) 6-15 minutes (4) 16-30 minutes

(5) 31-45 minutes (6) 46-60 minutes (7) more than 60 minutes

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QUESTIONNAIRE

1. We would like to know what movies you had a chance to see at a movie theatre or drive-in during the last two months. Here is a list of movies that have been shown in either Waterloo, or Cedar Falls during the last two months. Please circle the title of any movie that you remember seeing during the last two months.
If you saw a particular movie more than once during the last two months, please write down the number of times that you saw it after you circle the title. (Some movie titles have been slightly shortened.)

Firefox
The Road Warrior
Death Trap
Annie

Author! Author!
The Pirate Movie
Forced Vengeance
Night Shift
The Beach Girls
Private Lessons
Zapped

Diner
Blow Out

Arthur
Inchon
Pranks
Summer Camp
Sorority Girls
Death Wish II
The Challenge
On Golden Pond
Satan's Mistress
The Warriors

Mega Force
Wanda the Wicked Warden

Bambi
Rocky III
The Tempest
Six Pack

Nice Dreams
Star Wars
Moonraker
The Beastmaster
Partners
Visiting Hours
Funeral Home

Porky's
Stripes

Paternity
Savage Weekend
Hospital Massacre
Miss Nude America
Summer Lovers
Substitute Teacher
The Soldier
My Favorite Year
Poltergeist
Tex

Teen Lust

Diamonds Are Forever
E.T. The Extra-Terrestrial
Young Doctors in Love
The Best Little . . . House in Texas
The Sword and the Sorcerer
Things Are Tough All Over
Friday the 13th Part 3
An Officer and a Gentleman
Raiders of the Lost Ark
The World According to Garp
Monty Python Live at the Hollywood Bowl
My Dinner with Andre
Close Encounters of the Third Kind: The Special Edition
Lookin' To Get Out!
The Last American Vir. . .
Pink Floyd The Wall
Dressed to Kill
Return of the Dragon
Game of Death
Fast Times at Ridgemont High
Texas Chainsaw Massacre
Amityville II: The Possession
Richard Pryor Live on the Sunset Strip
The Gas Pump Girls
Harem Keeper of the Oil Sheiks

2. Please list any other movies that you saw at a theatre or drive-in during the last two months and indicate how many times you saw each movie during the last two months.

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3. We would like to know the titles of any books that you had a chance to read for your own enjoyment during the past two months. Please do not include books that you had to read for school or for work. If you read more than 1/2 of a non-school or non-work book during the last two months, please include it on the list. (If you can't remember the title of a particular book, just briefly describe what the book was about.)

Book Title	Type of Book (give number)
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

4. After you have written down the title of each book, please write in the number given below which best describes the type of book it is.

TYPE		
1	ACTION/MYSTERY	This would include science-fiction, adventure, detective, horror, fantasy, and western stories.
2	POPULAR NOVELS	This would include any recent, best selling, fiction book.
3	LOVE STORIES	This would include any romantic story.
4	NON-FICTION	This would include any book about real people, things, or events.
5	OTHER	This would include any book which does not fit any of the above descriptions.

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5. We would like to know what parts of the newspaper you usually read when you read a daily newspaper. Listed below are some of the most common parts of any newspaper. Each part is followed by a 5 point scale ranging from 1-never read to 5-always read. Please circle the number which best represents how often you would read each of these parts of a daily newspaper.

	NEVER READ	SELDOM READ	SOMETIMES READ	USUALLY READ	ALWAYS READ
International News	1	2	3	4	5
National News	1	2	3	4	5
Local News	1	2	3	4	5
Editorials & Political Columns	1	2	3	4	5
Sports	1	2	3	4	5
Women's Section	1	2	3	4	5
Entertainment Section	1	2	3	4	5
Comics	1	2	3	4	5
Advice Columns (Dear Abby, etc.)	1	2	3	4	5
Business & Finance	1	2	3	4	5
Obituaries	1	2	3	4	5
Crossword Puzzles	1	2	3	4	5
Classified Ads	1	2	3	4	5
All Other Advertisements	1	2	3	4	5
Other Parts of the Paper	1	2	3	4	5

6. We would like to know the magazines that you most often read. Please list the five magazines that you read most often in order of the amount of time you spend reading each magazine. The first magazine listed would be the one your read the most often, the second magazine would be the one that you read next most often, and so on.

Title of Magazine

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

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7. Please list the three musical performers or groups that you like the best.

(1) _____

(2) _____

(3) _____

We are interested in your feelings about crime, aggression, and the role of women in our society. Please circle the choice in each of the following statements which best represents your beliefs. We want to know what you really think about each of these statements.

Please Circle One Choice

1. During any given week, what are your chances of being involved in some kind of violence (hostile physical contact with another person)?

(1) About one in 10
(2) About one in 25
(3) About one in 50
(4) About one in 75
(5) About one in 100

2. What percent of all American men who have jobs are police officers or detectives?

(1) About 1 Percent
(2) About 2 Percent
(3) About 3 Percent
(4) About 4 Percent
(5) About 5 Percent

3. Are most murders committed by strangers, or by relatives or acquaintances of the victim?

(1) Strangers
(2) Relatives or Acquaintances

4. What percent of all crimes involve violence, like murders, rapes, robbery, and assault?

(1) About 15 percent
(2) About 18 percent
(3) About 20 Percent
(4) About 22 Percent
(5) About 25 Percent

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Please indicate how much you agree or disagree with each of the following statements:

Please Circle One Choice

1. Whoever insults me or my family is asking for a fight.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

2. If people hit me first, I let them have it.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

3. When I lose my temper at someone, once in a while I actually hit them.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

4. When I am mad at someone, I sometimes fight with them instead of talking about the problem.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

5. I don't feel it is wrong for me to hit someone who deserves it.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

6. It's all right to hurt an enemy you are mad at.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

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Please Circle One Choice

7. Overall, women are as smart as men.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

8. Married women should stay home and be housewives and mothers.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

9. Men are better leaders than women.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

10. Housework is really women's work.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

11. A woman can do the same jobs that a man can do.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

12. Overall, men are better at making decisions than women.

(1) Strongly Agree
(2) Agree
(3) Not Sure
(4) Disagree
(5) Strongly Disagree

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We have a few questions that we would like to ask you about the people in government. Please circle the correct answer to each question, if you know it.

1. Who was President of the United States immediately before Jimmy Carter?

(1) Richard Nixon
(2) Edward Kennedy
(3) George McGovern
(4) Gerald Ford
(5) Robert Dole
(6) Don't Remember

2. Who is the Republican candidate for the United States House of Representatives from your Congressional district in the coming election?

(1) James Leach
(2) Cooper Evans
(3) Ronald Johnson
(4) Margret Ritter
(5) Lynn Cutler
(6) Don't Know

3. Who is the current Speaker of the House in the United States House of Representatives?

(1) Robert Miller
(2) Henry Cabot Lodge
(3) Howard Baker
(4) Sam Becker
(5) Tip O'Neill
(6) Don't Know

4. Who is the Democratic candidate for Governor of Iowa in the coming election?

(1) Ann Holsquest
(2) Nancy Clark
(3) Roxanne Conlin
(4) Carol Scharge
(5) Sandra O'Connor
(6) Don't Know

5. Who is the current Democratic candidate for the 13th State Senatorial District serving much of the Waterloo Area?

(1) John Allison
(2) Lawrence Bernato
(3) Clinton Crawstock
(4) Frank Alexander
(5) Michael McGee
(6) Don't Know

6. Who is the Mayor of Waterloo, Iowa? Please fill in the blank.

_____

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We have just a few more general questions.
Please circle one choice.

1. What is your sex? (1) male (2) female

2. What is the highest grade your father (or male guardian) finished in school? (Include any technical education beyond high school.)

00 No Formal School	09 High School	13
01 Grade School	10	14
02	11	15
03	12 High School graduate	16 College Graduate
04		17
05		18 Master's Degree
06		19
07		20+ (Professional Degree)
08		

3. What is the highest grade that your mother (or female guardian) finished in school? (Include any technical education beyond high school.)

00 No Formal School	09 High School	13
01 Grade School	10	14
02	11	15
03	12 High School Graduate	16 College Graduate
04		17
05		18 Master's Degree
06		19
07		20+ (Professional Degree)
08		

4. Do you have cable television in your home? (1) yes (2) no

5. Do you have HBO (Home Box Office), or Showtime, or The Movie Channel in your home?
(1) yes (2) no

6. Does your family have a home video game, like Atari or Intellivision?
(1) yes (2) no

Please fill in the answer to each of these questions.

7. How many people, including you, live in your home? _____

8. On how many different occasions do you play video games during a typical week? _____

9. How old were you on your last birthday? _____

10. What is the occupation of your father (or male guardian)? (Please describe the kind of work he does.)

_____

11. What is the occupation of your mother (or female guardian)? (Please describe the kind of work she does.)

_____

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APPENDIX B

RESEARCHER CODED MASS MEDIA CONTENT

Magazine Content

Sports - Sports, Sports Illustrated, Pro, Sport, The Year of the Hawkeyes, Inside Wrestling, Football Weekly, Dallas Cowboy Weekly, Baseball Digest, Inside Sports, Pro Football, College Football, The Sporting News, Gymnastics, Football, Baseball, Skiing, Junior Bowler, Bowling, Runner's World, Golf Digest, Hockey Digest, Athlete, World Tennis, Tennis Magazine, Football Digest, Basketball Digest, Bowlers Journal, Golf, Basketball, Golf World.

Hunting and Outdoors - American Rifleman, Iowa Fins & Feathers, Outdoor Life, Fins & Feathers, Fishing Facts, Fishing, The In-Fisherman, Field and Stream, Shotgun News, National Wildlife, Iowa Conservationist, Ducks Unlimited, Conservation, Sports Afield, Wildlife, Wyoming Wildlife, Guns, Hunting Magazine, Rod Action, Outdoorsmen, Fishermen.

Music - Country Music Round Up, Hit Parader, Rock Review, Cream, Rockline, Billboard, Circus, Rolling Stone, Country Music, Musician, Piano Quarterly.

Motor Vehicle - Motor Trend, Hot Rod, 56' Special, Car Craft, Super Chevy, Truckers, Motocross Action, Four Wheeler Magazine, Wheeler Dealer, Fabulous Mustangs, Hot Rodding, Easy Rider, Dirt Bike, American Motorcyclist, Cycle, Street Rodder, Hemmings Motor News, Car Magazine, BMX Plus, Mudracing, Rider, Motorcycles, Mini Cycle, Dirt Wheels, Chevy, Snowmobiles, BMX Action, Biker and Dirt, Open Wheel, Crash and Burn.

Male Sex - Playboy, Oui, Club, Penthouse.

Female Adolescent - Teen, Seventeen, Young Miss, 16 Magazine, Teen Bag, Teen Beat, Tiger Beat, Teen Talk, Young Teen, Co-Ed.

Women's Traditional Roles - McCalls, Women's Day, Vogue, Parents', True Story, Good Housekeeping, Romance, True Love, Home Journal, Bazaar, Better Homes and Gardens, True Romance, Redbook, Glamour, Ladies Home Journal, Better Housekeeping, Mademoiselle, Modern Romances, Journal, 1001 Decorating Ideas, American Baby, Family Circle, Needle and Thread, 1001 Home Ideas, Growing Child & Growing Parent, Kitchen Klatter, House and Garden, Good Ideas, Mothers, Farm Wife, Workbasket, True Confessions, True Experience, Make-Up Magazine, Fashion, Family Weekly.

Women's Non-Traditional Roles - Self, New Women, Cosmopolitan, Working Mother, Working Women, Women's World, Playgirl.

Newsmagazines - Newsweek, Time, U.S. News & World Report, World News, Grit.

Celebrity Gossip - National Enquirer, People, National Star, Movie Mirror, Stars Magazine, US, Star, Elvis.

Mass Circulation - Readers' Digest, TV Guide, Life.

Science & Technology - Omni, Discover, Discovery, Science Digest, Creative Computing, Popular Science, Popular Mechanics, Sky and Telescope, Oceans, Astronomy, Mechanics Illustrated, Science World, Popular Electronics.

Upscale - National Geographic, Geo, Consumer Reports, The Smithsonian, Gentlemen's Quarterly, The New Yorker, Harpers, The New Republic, Commonwealth, Atlantic Monthly, Psychology Today.

Other Activities & Hobbies - Horse of Course, Organic Gardener, Ti Qwan Do Illustrated, History of Tae Kwon Do, True Karate, Body Forum, Soap Opera Digest, Starlog, Fangoria, Blackbelt, Karate Illustrated, Inside Kung-Fu, 110 Games, Skate, High Times, Muscle and Fitness, Kick Illustrated, Bicycling, Home Shelter, Organic Gardening, American Photographer, Bon Appetit, Cuisine, Modern Photography, Photography, Travel & Leisure, Kick Illustrated, Trailer Life, Handyman, Games, Referee, Workbench, Body Building, Gardening, Peterson's Photographic, Wood Working, The Horse Digest, Homeowners How To, Colonial Homes, Country Living, Civil War Times, Good Old Days, Sun Times, Metropolitan Home.

Black - Jet, Black Enterprise, Ebony, Essence, Black Stars, Ebony, Jr.

Religious - Young Ambassador, Catholic Digest, Guideposts, Christian Herald, A.D., Christian Reader, Columbia, Moody Monthly, Last Days, Watchtower, Campus Life.

Humor - Crazy, Cracked, Mad, Cartoons.

Professional Journals - Wallace Farmer, Psychiatry Today, Successful Farmer, Farm Journal, Nursing, Nursing Life, Editor & Publisher, Society of Automotive Engineering Magazine, American Society of Mechanical Engineers Magazine, American Bar Association Journal, Industrial Engineering, Modern Materials Handling, Material Handling Engineering, Nursing '82, American Journal of Nursing, Educational Horizons.

Adult Illustrated - Heavy Metal, Dragon Magazine.

Business - Business Week, Money, Entrepreneur, Money Making.

Comic books - Hulk, Comic books, Super Hero Ghost Comics, Archie Comics, Spiderman, Monster, Spirit, DC Comics, Marvel Comics.

Children's - Children's Digest, Boy's Life.

Other - Superstars, Epic, World, Catalogs, Street Scene, Soap, Short, Wisconsin DNR, Mother Earth News, East/West Times, Connecting Link, P.S., Spring, Die Haus Frau, Das Goldene Blatt.

Radio Stations

Rock - KWLO-AM, KCNB-FM, KQCR-FM, KRNA-FM, KROC-FM, KKRQ-FM, KFMW-FM (second survey only).

Country - KXEL-AM, KCFI-AM, KWAY-AM, KHAK-FM, KOEL-FM, KNEI-AM.

MOR - KLEU-AM, WMT-AM, KFMW-FM (first survey only), WMT-FM, KOEL-AM, KDAO-AM.

Public Radio - KUNI-FM, KHKE-FM, WOI-AM.

Information - WHO-AM.

Religious - KNWS-AM, KNWS-FM.

Black - KBBG-FM.

Film Codings

Science Fiction & Fantasy - Close Encounters of the Third Kind: The Special Edition, Star Trek II: The Wrath of Khan, Bladerunner, Dragonslayer, The Sword and the Sorcerer, The Beastmaster, Star Wars, The Road Warrior, The Last Unicorn, The Dark Crystal, The Empire Strikes Back, Lord of the Rings, Fantastic Invasion of Planet Earth, The Secret of Nimh, Time Rider.

Comedy - 9 to 5, Night Shift, Stripes, Young Doctors in Love, Nice Dreams, Things Are Tough All Over, Monty Python Live at the Hollywood Bowl, Richard Pryor Live on the Sunset Strip, The Toy, Jimmy the Kid, Airplane II the Sequel, Incredible Shrinking Women, My Favorite Year, Class Reunion, It Came From Hollywood, Dr. Strangelove.

Romantic/Dramatic Comedy - Author! Author!, Arthur, On

Golden Pond, I Ought to Be in Pictures, Six Pack, Dinner, The Tempest, The World According to Garp. The Best Little Whorehouse in Texas, Tootsie, Kiss Me Goodbye, Best Friends.

Dramatic - An Officer and a Gentleman, The Verdict, Honkytonk Man.

Teen Appeal - Tex, Pink Floyd the Wall, Zapped, The Pirate Movie, Private Lessons, Porky's, Summer Lovers, The Last American Virgin, Fast Times at Ridgemont High, Summer Camp, Substitute Teacher, Fame.

Sex - The Beach Girls, Miss Nude America, Teen Lust, The Gas Pump Girls, Senior Snatch, Sorority Girls, Deep Throat.

Horror - Creepshow, Parasite, Funeral Home, Visiting Hours, Poltergeist, Friday the 13th Part 3, Texas Chainsaw Massacre, Amityville II: The Possession, Halloween III, The Thing, Friday the 13th Part 2.

Action/Adventure - First Blood, 48 Hrs, Still of the Night, Excalibur, The Challenge, Firefox, Forced Vengeance, Blow Out, Death Wish II, The Warriors, Mega Force, Moonraker, Savage Weekend, The Soldier, Diamonds Are Forever, Raiders of the Lost Ark, Dressed to Kill, Return of the Dragon, Game of Death, Rocky III.

Children's - Heidi's Song, Peter Pan, Looney Looney Bugs Bunny Movie, Annie, Savannah Smiles, Bambi, The Phantom Tollbooth.

Art Film - Nosferatu the Vampire, Priest of Love, Gallipoli, Breaker Morant.

Television Program Coding

Sports - Stan Sheriff: UNI Football, NFL '82 Show, CBS Sports Special, N.Y. City Marathon, Big Ten Football Highlights, NBC Sportsworld, Football: Iowa at Minnesota, Football: Iowa State at Colorado, NBC Sports Special, Sportsbeat, Hayden Fry: Football, Bonnie Duncan Show, Hawkeye Closeup, Basketball: Ohio State at Iowa, Football: Illinois vs. Wisconsin, Basketball: Iowa at Wisconsin, NFC Championship Game, Basketball: Notre Dame at Maryland, Golf: Bob Hope Desert Classic, Sports Saturday, ABC's Wild World of Sports, Professional Bowlers Tour, Basketball: Northwestern at Minnesota, NFL '83, AFC Championship, Basketball: North Carolina & Memphis State, Tennis: Grand Prix Masters, U.S. Amateur Boxing Championships, The Lute Olson Show, sports programs written in, mostly cable channels, were also included.

Game Shows - $25,000 Pyramid, Child's Play, Wheel of Fortune, Price is Right, Family Feud, People's Court, Joker's Wild, Tic Tac Dough, Sale of the Century, Hit Man, Tattletales, Fantasy, Scholar Bowl, Dance Fever, So You Think You Got Troubles, Let's Make a Deal.

Religious Programs - Jimmy Swaggart, Mass for Shut-Ins, Lowell Lundstrom, Rex Humbard, Oral Roberts, Day of Discovery, World Tomorrow, Kenneth Copeland, Robert Schuller, The Larry Jones Program.

Movies - Siege at Red River, Blazing Saddles, FM, Creature from Black Lake, Blondie's Big Deal, Little Gloria Happy at Last, The Big Red One, Billion Dollar Brain, Those Daring Young Men in Their Jaunty Jalopies, Moonraker, Not in Front of the Children, Shocktrauma, Not Guilty, Alligator, Car Wash, Murder is a One Act Play, CC and Company, Malibu, Effect of Gamma Rays on Man-in- the-Moon Marigolds, Movie: the A Team, A Blueprint for Murder, In addition to these titles, all cable movies listed by the subjects were included as well as unspecified HBO or Showtime listings by the subjects. At the Movies a syndicated movie review program was also included in this category.

News and Public Affairs - Today, CBS Morning News, Good Morning America, Good Morning Eastern Iowa, CBS News Sunday, Face the Nation, Soundoff, Newscenter 7 (noon), 2 Action News (noon), NBC Nightly News, CBS Evening News, ABC World News Tonight, Newscenter 7 (at 6 PM), 2 Action News (at 6 PM), TV9 Eyewitness News (at 6 PM), PM Magazine, Newscenter 7 (at 10 PM), 2 Action News (at 10 PM), TV9 Eyewitness News (at 10 PM), NBC News Overnight, CBS News, TV9 Feature, TV9 Eyewitness News Review, Nightline, ABC News the Last Word, 20/20, Cutler/Evans Debate, 60 Minutes, State of the Union Message, Documentary: Labor in the Promised Land, Democratic Response to the State of the Union Message, Directions, the Wall Street Journal Report, This Week with David Brinkley, Documentary: the Cuban Missile Crisis, Fight Back with David Horowitz, Documentary: the Song Writers, Barry Farber, WGN News. In addition, subject listings of cable news services like CNN and public affairs services like C-Span were included.

Daytime Soap Operas - Texas, Young and the Restless, Ryan's Hope, Search for Tomorrow, All My Children, Days of Our Lives, As the World Turns, One Life to Live, General Hospital, Edge of Night, Capitol, Guiding Light, Another World, Love in Venice, New Day in Eden, Loving Friends and Perfect Couples. In addition, a daily syndicated program about soap operas, Soap World, was also included.

Children's Programs - Romper Room and Friends, CBS Library: Robbers, Rooftops & Witches, Scooby-Doo, ABC After School: Between Two Lovers, Captain Kangaroo, Flintstone Funnies, Speed Buggy, Superfriends, Shirt Tales, Sylvester & Tweety/Daffy & Speedy, Pac-Man/Little Rascals/Richie Rich, Smurfs, Bugs Bunny/Road Runner, Mork & Mindy/Laverne & Shirley, Gary Coleman, Gilligan's Planet, Incredible Hulk & Amazing Spider-man, Pandemonium, Scooby & Scrappy Doo/Puppy, Meatballs & Spagetti, Jetsons, Flash Gordon, It's the Great Pumpkin Charlie Brown, Here Comes Garfield, Walt Disney, Great Space Coaster, Pinwheel, Mark Twain Theatre, Flintstones, cartoons, Nickelodeon, Bozo Show, Gulliver's Travels.

Action/Adventure - Devlin Connection, Powers of Matthew Star, Dukes of Hazzard, Knight Rider, The Quest, Remington Steele, T.J. Hooker, Voyagers, Chips, Matt Houston, Cagney & Lacey, Magnum, P.I., Simon & Simon, Hill Street Blues, Rockford Files, Tales of the Gold Monkey, The Fall Guy, Bring'em Back Alive, Gavilan, Hart to Hart, Tucker's Witch, Greatest American Hero, Quincy, Bonanza, Emergency, Hawaii 50, The Incredible Hulk, Hill Street Blues, Rawhide, Big Valley, Buck Rogers, Wagon Train, Charley's Angels.

Heavy Dramas - Dallas, St. Elsewhere, Falcon Crest, Knot's Landing, Dynasty, The Family Tree, GE Theatre: Running Out, Fifth of July, Brideshead Revisited, Honor Thy Father, The Rainmaker.

Light Dramas - Love Boat, Fantasy Island, Trapper John, M.D., Father Murphy, Fame, Seven Brides for Seven Brothers, Little House: A New Beginning, The Watons.

Situation Comedies - Munsters, Leave It to Beaver, Good Times, Bewitched, Bob Newhart, Soap, Jeffersons, Beverly Hillbillies, Different Strokes, Mork & Mindy, Brady Bunch, Joanie Loves Chachi, Too Close for Comfort, Alice, Welcome Back Kotter, Happy Days Again. Mash, Barney Miller, Sanford & Son, Cheers, Taxi, Too Close for Comfort, It Takes Two, Filthy Rich, Laverne & Shirley, Three's Company, 9 to 5, Bob Newhart, Benson, The New Odd Couple, Hogan's Heroes, Silver Spoons, Gimme a Break, Archie Bunker's Place, Gloria, One Day at a Time, Madame's Place, Square Pegs, Family Ties, Andy Griffith, Mary Tyler Moore.

Human Interest - PM Magazine, PM Magazine Special, That's Incredible, Ripley's Believe It or Not, Entertainment Tonight, Real People.

Talk Shows - Phil Donahue, Tonight Show, Late Night with David Letterman, Hour Magazine, At Home with Beverly Nye, Signature, Sonya.

Country Music/Variety - Crystal Gale Concert, Nashville on the Road, Glen Campbell Music Show, Hee Haw.

Comedy - Saturday Night, Friday's SCTV, Muppets, Carol Burnett, George Carlin at Carnegie, You Can't Do That on TV, Lighter Side of the News, Gallagher, Bizarre, Laugh Trax, Paul Hogan.

Other - Solid Gold, American Bandstand, Richard Simmons, Lorne Greene's New Wilderness, Wild Kingdom, EPCOT Center Opening, Shopsmith Program, TV Guide: 1982 the Year in Television, Lawrence Welk, Soul Train, Olivia Newton John Concert, Hang in there Willy Bill, The Commodores in Concert, Just Men, Aerobicise, Fran Carlton, cable, cablevision.

APPENDIX C

MEANS, STANDARD DEVIATIONS, AND NUMBER OF RESPONDENTS FOR ALL VARIABLES

Variable	Mean	S.D.	N
DEMOGRAPHIC VARIABLES			
Sex	1.398	.492	113
Father's Education in Years	13.110	2.783	109
Mother's Education in Years	13.228	3.356	110
Family Number	4.517	1.138	116
Age	11.965	.531	114
Household Occupation	40.500	10.147	109
Academic Achievement	60.509	26.220	112
MASS MEDIA VARIABLES			
TELEVISION (in half hours)			
Total TV	52.052	32.619	116
MTV	2.034	7.001	116
PBS	.052	.557	116
Heavy Dramas	1.276	1.905	116
Situation Comedy	12.948	10.383	116
Comedy	.974	1.927	116
Light Dramas	1.810	2.519	116
Sports	2.517	3.893	116
Game Shows	2.198	4.106	116
Religious Shows	.017	.131	116
Movies	7.397	6.786	116
News	3.276	5.645	116
Daytime Serials	.879	3.365	116
Cartoons	6.017	5.632	116
Action/Adventure	8.483	5.292	116
Human Interest	1.776	1.987	116
Talk Shows	.422	1.300	116
Country Music	.172	.594	116
Other	.940	1.633	116
MOTION PICTURES (in no. of films seen during the previous 2 months)			
Total Number of Motion Pictures	8.595	7.849	116
Science-Fiction & Fantasy	.784	1.581	116
E.T.	1.026	.973	116
Comedy	.948	1.432	116
Romantic/Comedy	1.078	1.333	116
Dramatic	.052	.222	116
Teen	1.034	1.538	116
Sex	.155	.569	116

Variable	Mean	S.D.	N
Horror	.784	1.413	11[illegible]
Action/Adventure	2.224	2.482	116
Children's	.276	.468	116
Art Film	.000	.000	116
RADIO (in quarter hours)			
Total Radio Listening	24.164	27.002	116
Rock Music	20.009	26.898	116
Religious	.009	.093	116
Country Music	2.207	7.141	116
MOR	.448	3.057	116
Black	.897	4.869	116
Information & Talk	.129	.775	116
Public	.466	4.562	116
Total Radio News(not in quarter hrs.)	16.267	9.395	116
RECORDINGS (in quarter hours)			
Total Recordings Listening	16.422	20.471	116
Rock Music	12.767	17.254	116
Country Music	1.241	4.444	116
Classical Music	.578	3.804	116
Soul Music	.379	3.729	116
Jazz Music	.000	.000	116
Beautiful Music	.000	.000	116
Comedy	.000	.000	116
Gospel Music	.052	.557	116
Popular Music	.034	.371	116
New Wave Music	.543	3.625	116
Other	.828	4.851	116
NEWSPAPERS			
Total Newspaper Reading	3.442	3.244	116
International News	2.672	4.758	116
National News	3.560	5.806	116
Local News	5.190	7.892	116
Editorials & Opinion Columns	1.552	4.221	116
Sports	8.267	11.050	116
Women's Section	2.000	5.298	116
Entertainment Section	7.500	9.854	116
Advice Columns	3.707	7.479	116
Crossword Puzzles	4.759	8.492	116
Comics	10.500	11.944	116
Business News	.655	2.281	116
Classified Ads	5.017	7.714	116

Variable	Mean	S.D.	N
Other Ads	5.181	8.988	116
Obituaries	2.500	5.614	116
Other Parts of the Newspaper	3.319	6.938	116
MAGAZINES			
Total Magazine Reading	5.328	7.796	116
Sports	8.207	26.068	116
Outdoors	.957	4.859	116
Music	.000	.000	116
Motor Vehicle	7.121	33.493	116
Male Sexual	.302	2.111	116
Female Adolescent	5.543	18.751	116
Women's Traditional	2.190	10.669	116
Women's Non-Traditional	.733	5.198	116
News Magazines	1.552	6.556	116
Celebrity Gossip	4.034	12.647	116
Mass Circulation	1.710	7.152	116
Science & Technology	6.405	43.578	116
Upscale	1.129	6.935	116
Other Activities	.810	5.501	116
Black	.293	2.257	116
Religious	.000	.000	116
Professional	.000	.000	116
Humor	7.750	38.534	116
Adult Illustrated	.284	2.563	116
Business	.078	.836	116
Comic Books	8.534	30.683	116
Children's	1.698	9.083	116
Other	2.388	12.653	116
BOOKS (in number of books read during the previous 2 months)			
Total Books	2.362	2.346	116
Action/Adventure	.905	1.714	116
Popular Novels	.328	.707	116
Romantic Novels	.422	1.136	116
Non-Fiction	.379	.798	116
Other	.328	.643	116